

IN THE SPECIFICATION:

On page 6, amend the paragraph beginning on line 15 as follows:

Fig. 2 is a functional block diagram of the information filtering apparatus shown in Fig. 1 [[2]];

On page 9, amend the paragraph beginning on line 12 as follows:

In the above configuration, an operation in the information filtering apparatus 91 is described. In this case, the operation is described on the assumption that various records indicating pieces of learning information required by a user in the past have been learned by the learning unit [[51]] 52. Also, one or more keywords are attached to each of pieces of information such as learning information and unread in the corresponding information. Each of the keywords is a part of word included in the corresponding information, a word included in the corresponding information or an additional word representing the corresponding information.

On page 18, amend the paragraph beginning at line 19 as follows:

In the unread data storing unit 10, a plurality of unread data signals URD, of which the number is nofURD at the maximum, respectively composed of the information data D, the keyword number signal nofKs, the keyword group signal Ks, the necessity signal N and the reliability signal R are stored under the control of the unread data writing control unit 9. The unread data signals URD are expressed as follows.

On page 31, amend the paragraph beginning at line 17 as follows:

In contrast, in case of the teaching signal $T \neq -1$, each of the teaching data signals $TD(i-1)$ ($i=2,3,--,nofTD$) already stored in the teaching data storage unit 13 is rewritten to a teaching data signal [[signals]] $TD(i)$ (steps S308 to S311). Therefore, a teaching signal $TD(1)$ is substantially removed from the teaching data storing unit 13. Thereafter, the teaching data T input by the user and the keyword number signal $nofKs(1)$ and the keyword group signal $Ks(1)$

read out from the unread data storing unit 10 are stored in the teaching data storing unit 13 as elements of a teaching signal TD(1) (step S312). That is, T(1) is set to T, Tnofks(1) is set of nofKs(1), and TKs(1) is set to Ks(1). Therefore, the teaching signal T lately input by the user is added to the unread data signal URD(1), and the teaching signal data TD(1) is generated.

On page 39, amend the paragraph beginning at line 12 as follows:

In the first embodiment of the present invention, the necessity signal N for the necessary information required by the user can have a high value because of the learning based on the teaching signals input by the user, so that the necessary information required by the user can preferentially be displayed on an interface unit such as a display unit.

On page 50, amend the paragraph beginning at line 8 as follows:

Therefore, in cases where the keyword cost signal KD reflects the relationship between the unnecessary probability P_{PN} and the occurrence probability P_{NN} and the relationship between the necessary probability P_{PY} and the occurrence probability P_{NY} , any type of keyword cost signal KD is useful. As an example, a type of keyword cost signal KD called a calvac divergence is known as follows:

$$KD(J) = NY/(NY + NN) * \log((PY(J))/(PY(J) + PN(J)) + \\ NN/(NY + NN) * \log((PN(J))/(PY(J) + PN(J))$$

However, because the affirmative response number NY, the negative response number NN, the affirmative number PY(J) and the negative number PN(J) are set to 0 in the initial condition, the calculation of $\log((PY(J))/(PY(J) + PN(J))$ and $((PN(J))/(PY(J) + PN(J))$ cannot be performed. Also, the adoption of the type of keyword cost signal KD called the calvac divergence is inappropriate because the keyword cost signal KD of the adaptive code dictionary signals FDCK satisfying the relationship $PY(J) + PN(J) \cong 1$ is overestimated. To avoid the above drawbacks, as a preferred example, another type of keyword cost signal KD is expressed as follows:

$$\begin{aligned} KD(J) &= \tanh \{ (PY(J) + PN(J)) / PC \} \\ &\quad \tanh \{ NY / (NY + NN) * \log((PY(J) + \epsilon) / (PY(J) + PN(J) + 2\epsilon)) \\ &\quad + NN / (NY + NN) * \log((PN(J) + \epsilon) / (PY(J) + PN(J) + 2\epsilon)) \} \end{aligned}$$

Here ϵ is adopted to avoid a division by a divisor of zero and the calculation of $\log(0)$ denoted a parameter having a low positive value. A parameter PC is about 3.

On page 56, amend the paragraph beginning at line 22 as follows:

Therefore, in cases wherein the affirmative metric signal MY and the negative metric signal MN satisfy the above condition, any type of affirmative metric signal MY and any type of negative metric signal MN is useful. As a preferred example, a type of affirmative metric signal MY is expressed as follows:

$$\begin{aligned} MY(i,j) &= NY / (NY + NN) * \log \{ (MY1(i,j) + \epsilon) * (NY + NN) \\ &\quad / (NN * (MY1(i,j) + MN1(i,j) + 2\epsilon)) \} \end{aligned}$$

Here ϵ is adopted to avoid a division by a divisor of zero and the calculation of $\log(0)$ denoted a parameter having a low positive value.

On page 59, amend the paragraph beginning at line 17 as follows:

Also, the necessity signal N for the necessary information required by the user can have a high value because of the learning based on the teaching signals input by the user, so that the necessary information required by the user can preferentially be displayed on an interface unit such as a display unit.